



**Filtration.
Setting a high-water mark.**

Your guide to water filter management.



Water is fundamental to life – and also plays a huge role in the foodservice industry

Independent cafés and family restaurants all the way through to large coffee shops and pub chains rely on fresh and clean water for their daily business. Controlling water quality can be vital to their brand identity and customer loyalty – and ultimately their success. High quality water is the key ingredient too for vending machines and water coolers keeping users satisfied and coming back for more.

Mains water is generally considered to be a fixed, stable and unchanging commodity, when in fact quality varies widely from region to region and even street to street. High levels of dissolved minerals, the use of disinfectants and the presence of tiny solid particles – or even residual bacteria – can imbue water with an unpleasant taste. On top of this, untreated water can cause scaling on internal parts, corrosion on metal surfaces, and rot rubber components within machinery.

Many foodservice providers and businesses are not aware that water filtration can solve these problems, to create water with no off-flavours and low levels of scale-inducing minerals.

On the customer side, water quality and taste are the most important factors. As consumers become more discerning, they will not tolerate sub-standard coffee, for instance – whether from a specialist coffee outlet or a vending machine. From a business perspective, the key concern is high mineral content that causes machinery to scale up – which reduces efficiency and leads to expensive repairs, or even early failure.



Foodservice outlets and businesses rely heavily on water:



Post-mix drinks – made by mixing water with flavoured syrups – can be more than

80%

water¹, and are highly profitable.



Hot beverages like coffee and tea are up to

98%

water², and water quality has a huge influence on their flavour.



Vending machines and water coolers are increasingly popular but water quality is very noticeable.



Ice is

100%

water, yet ice cubes made from unfiltered water are commonplace – although they appear cloudy and can carry a residual taste of chlorine.

A correctly specified water filtration system can be the way to help companies achieve their goals – from a national coffee chain that wants to offer consistent flavoured coffee across the country, an independent café that must prolong the life of its expensive espresso machine to a company that wants to keep its workers hydrated.

Learn more about what affects mains water quality, how filtration can solve this, and the mechanics of selecting and maintaining water filtration equipment, especially the importance of filter replacement, in the following pages.



What affects mains water quality?

There are many laws governing water supply, but the main concern of regulators is that it is safe to drink.

While it is correct to prioritise safety, the way it is achieved can negatively affect water quality in other ways: so, while disinfectants remove harmful pathogens from water, for instance, they also affect its taste.

Several other factors can affect mains water quality, and all can seriously affect foodservice and licenced operators.

1. Chlorine and chloramines

Chlorine has long been added to domestic water supplies in order to kill pathogens. Despite the low levels involved, it still affects the taste of the water by giving it a fishy taste and odour, which inevitably finds its way to the end product.

In recent years, some water companies have switched to chloramine as a means to treat water, due to ongoing research into the negative by-products produced by chlorine disinfection. Chloramines, however, are more difficult to reduce via filtration – and many water filters are not effective in its removal.

As well as affecting water taste, chloramine can damage machinery by degrading rubber parts – such as O-rings – which may cause leaks and require repairs.

2. Mineral content

One of the most visible and costly effects of ‘hard’ water – which has high levels of dissolved calcium and magnesium salts – is scaling. This can have a detrimental effect on machinery, ranging from fouled heating elements to blocked valves.

Hard water has an insidious effect on machinery by forming scale over time – which may cause sudden breakdown without warning.

Overall, scale formation increases running and maintenance costs, affects water taste – such as the bitterness of coffee – and can reduce flow rates. In addition, drinks made with hard water can appear cloudy. There are several ways to treat scale, but some – such as acid cleaners – can also damage sensitive metal machine components.

3. Bacteria and sediment

Insoluble particles in the water supply can have a detrimental effect on taste – as well as affecting the operation of machinery. The particles can range from inorganic materials – such as clay, sand or rust – to living matter such as viruses or pollen particles.

Sediment can affect various types of machinery: in ice machines, for instance, it can trap air and lead to cloudy ice, while also clogging tubes and solenoid valves.

4. Chemical content

Although authorities are generally successful in removing pathogens from water, some chemicals can slip through. These include synthetic chemicals – like pesticides or detergents – and medicinal residues such as hormones that have escaped the water treatment process.

Another concern is volatile organic chemicals (VOCs), which range from natural substances to industrial solvents. Some, like benzene, are toxic to health, while others are formed in reaction with chlorine – a common disinfectant.



Replacement Filter Fact No 1:

Replacing filters when they have reached capacity is essential to ensure consistently high quality water.

[Learn more](#)





Why filtration is key to your business

Most water that emerges from the tap appears perfectly pure. However as we have discussed, while safe to drink, it may contain unseen contaminants – such as minerals, sediment and trace chemicals. Unless they are removed, these contaminants can end up in the final product served to customers, damage machinery and even harm the business as a whole.

1. Quality and taste

The most noticeable problem – usually leading to customer complaints – is that untreated mains water is imbued with off-flavours. These are caused by everything from dissolved minerals and sediment particles to disinfectants like chlorine or chloramine. Removing such contaminants helps to ensure that products taste better. For example:

- ▶ Coffee has a richer, more subtle flavour and is not tainted with bitterness, has an odour, flatness – or, on occasion, surface scum;
- ▶ Post-mixes can be made using the recommended level of syrup – as there is no need to use more in order to hide off-flavours and drinks have maximum fizz rather than being flat;
- ▶ Drinks from vending machines and water coolers taste better with no evidence of chlorine;
- ▶ Ice is not tainted with a ‘chlorine’ odour or sediment that makes cold drinks look and taste unpleasant; and,
- ▶ Food prepared or cooked with water tastes and looks better, with no flakes of hardwater scale present.

2. Equipment efficiency

Even if customers have no complaints over sub-standard products, low quality water can damage machinery. The worst problem is scale caused by dissolved minerals being deposited onto machine surfaces. This can lead to more breakdowns, require more maintenance – and ultimately reduce machine lifetimes.

- ▶ Scale on heating elements can reduce energy efficiency by around 30%³ as it reduces heat transfer;
- ▶ ‘Hidden’ scale – which blocks pipes, valves and other internal components – reduces flow rates and can also cause internal leaks; and,
- ▶ Scale build-up can cut machine lifespan by 50%⁴ – despite a lifetime of increased maintenance in order to keep it running.

3. Business impact

Unhappy customers and unreliable machinery can only lead in one direction: a negative effect on business. Here are just a few examples of how poor water quality can directly affect business:

- ▶ Machines break down more frequently, or work sporadically – so may not be available when they should be generating income and lead to an overall higher cost of ownership;
- ▶ Brand reputation may become tarnished, while customers will either leave or complain if they are unsatisfied with beverage and even steamed food quality; and,
- ▶ Unreliable working conditions, regular disruption from service engineers and handling customer complaints may affect the morale of staff – many of whom report that the foodservice industry is already a stressful place to work; and,
- ▶ Ultimately this all links back to an increase in running costs for the business and therefore reduced profits.

Many foodservice businesses may curse bad luck for their erratic machinery – but these problems could be fixed by improving the quality of the water supply.

Replacement Filter Fact No 2:

An exhausted water filter won't be doing its job, meaning you're at risk of serving inferior quality beverages, damaging your kitchen equipment and your profit margin.

[Learn more](#)





Case-study: Coffee Island

Excellence in every cup

Coffee Island opened its first coffee shop in Patras Greece in 1999 with a vision to turn the art and craft of making artisan coffee into a science. Through passion and collective work, that vision of offering perfectly engineered coffee has been realised.

Distinguished for sourcing unique specialty varietals, artisan roasting and speciality brewing methods, Coffee Island has grown to more than 420 coffee shops across Greece, Cyprus, the UK and Canada and is the 6th largest coffee chain network in southern Europe.

From bean to cup, Coffee Island is committed to sustainability, innovation and coffee excellence ensuring the best possible aromas, flavours, sweetness, acidity and body in every cup of Direct Trade specialty coffee.

Good filter management

When a cup of coffee is up to 98% water⁵, water quality is essential to Coffee Island's brand. And with a wide variability in the quality of drinking water throughout its locations, Coffee Island relies on effective filtration to ensure a consistently perfect taste profile for its coffee.

3M supplies filtration products for Coffee Island's water boilers, coffee brewers, espresso and ice machines across all of its outlets.

According to Panagiotis Litos, Field Service Technicians Supervisor, responsible for Coffee Island's preventive maintenance programme and repair planning: "Filtered water not only ensures we serve the best tasting coffee, it keeps our equipment running efficiently. With nearly 800 items of equipment connected to mains water in our coffee shops, we want to avoid downtime for repairs or extra maintenance costs.

"Having a proactive filter management process is vital. Water meters are installed on every cartridge which count down the remaining litres of water and our coffee shop managers inform us when levels get low. This combined with a preventive maintenance programme, where filters are checked three or four times a year, means filters are replaced on time, ensuring optimal equipment efficiency and great tasting coffee - both of which are our primary goals for customers and partners."





The science behind filtration

The contaminants in mains water require different filtration methods to remove them. Solid particles, for instance, require some kind of mechanical filter, while organic chemicals are best removed with activated carbon.

There are four main filter technology types, which use various methods to remove contaminants from water.

1. Activated carbon

Activated carbon filters are used to remove chlorine from water – as well as some organic chemicals. The main effect is to improve the water's taste. It can and should be used in all areas regardless of water hardness as contaminants will always be present in mains water, even if the water is soft.

Activated carbon is engineered to have small pores that increase its internal surface area. The material is usually coated onto a filter element (such as a pleated filter) that is contained within a cartridge, or machined into a semi permeable carbon block. Water is then passed through the filter – which works by trapping the 'unwanted' molecules in its pores.

Chloramine can be harder to remove than chlorine, so 3M has developed a special carbon block that has been designed to trap it specifically. The carbon block's surface has also been modified to maximise water contact – and so remove an even higher proportion of chloramine. Carbon filters can vary in micron rating from 5 microns all the way down to 0.2 microns, meaning various pore sizes are available to select depending on which contaminants are needed to be removed.

Reason to replace your carbon filter: Carbon can block over time the more water passes through and if large particles enter and block (think of a sieve with sand and rice constantly flowing through it – after a time, the rice will likely block the holes and sand will no longer be able to pass through). If you notice a drop-in flow rate, it's probably time to replace your filter.

2. Polyphosphates

Polyphosphates are food safe additives that are dosed into water at a controlled rate in order to inhibit scale. The dosing can be performed manually or automatically at levels of around 2 parts per million (ppm). Water filters that contain Polyphosphates usually hold them within the cartridge and slowly dose the water as it passes through.

The technique works by coating the magnesium and calcium ions in order to prevent them from sticking to water-contact surfaces of equipment to prevent them from accumulating and blocking. It does not physically remove the calcium and magnesium from the water, but instead simply inhibits their ability to form scale.

Polyphosphate treatment works best for soft to moderately hard water but becomes less effective in very hard water areas where scale removal will be required.

Reason to replace your polyphosphates filter: Polyphosphates can exhaust. Over time, as they get added and mixed into the water, they become less and less – (think of it like eating a hard boiled sweet – getting smaller and smaller until it's fully dissolved). Then there's no more protection against scale.

3. Ion exchange

Ion exchange resin is used to actually reduce scale minerals from the water and is a highly effective treatment for moderate to very hard water. It works by removing calcium and magnesium ions which cause water 'hardness' and scaling. It does this by passing the water through a polymeric resin that is impregnated with ions that strongly attract the calcium and magnesium ions.

Reason to replace your ion exchange filter: Like Polyphosphates, they can expire. In time, the resin will become saturated with calcium and magnesium ions, so the filter cartridge must be replaced.

4. Reverse osmosis

Reverse osmosis (or RO) is a relatively unique technology and can be used in any level of water hardness, but is most cost effective when used in hard water areas to prevent scale.

It is based on the use of a semi-permeable membrane. High pressure is applied to the solution (that is, the mains water to be treated), which forces it through a tight pore structure in a membrane. The membrane will separate anything larger than a water molecule including the calcium and magnesium ions that cause scaling and other contaminants.

Reverse Osmosis can allow for the filtration down to 0.0005 microns. It is commonly used to protect and filter multiple pieces of equipment at any one time, as opposed to the one filter per equipment standard of other water filter technologies.

RO membranes are self-cleaning, so units last for a considerable time. Usually only the low cost membrane needs to be replaced rather than the whole system, making them very cost efficient over time.

Replacement Filter Fact No 3:

When your water filter becomes exhausted, contaminants will return, adversely affecting the quality of the water you use.

[Learn more](#)



How to choose a filter

With a wide choice of filter types available – and a variety of contaminants to remove – it can be daunting to decide which is most appropriate.

However, the choice can be narrowed by first considering the requirements. For instance, being in a hard water region will make scale prevention a high priority. Similarly, certain water companies prefer chloramine (rather than chlorine) for disinfection – and this will also influence the choice of filter.

The choice of technique (or techniques) may depend on many factors, including:

- ▶ Incoming water hardness: hard or soft water?
- ▶ Incoming water quality: which contaminants, minerals and chemicals are present – and what size are the particulates?
- ▶ The type of foodservice equipment being used, and the end product; and,
- ▶ Other considerations affecting the model or type of filter (not necessarily the technology); as assessing treatment capacity, pH and flow rate.



1. Incoming water hardness

Because scaling affects many aspects of foodservice machinery, it is important to understand how best to treat each level of water hardness. Specialist products can give an instant assessment of water hardness, but it can also be achieved using simple litmus test strips.

Soft water might seem like a non-problem, and it will have minimal effect in terms of scaling. However, it may still harbour contaminants that impair water quality – such as sterilising chemicals or insoluble particles. At the same time, low mineral content is not always a good thing: it can make coffee taste bitter, because the coffee requires unsaturated ‘space’ within water in order to properly extract. Conversely, with too much ‘space’, the coffee can over extract, also causing a bitter taste. For soft water (typically 0-100ppm calcium carbonate), the optimum solution is Polyphosphate.



Moderately hard water makes better coffee but can cause scaling problems. Here, the best approach is to take precautions against scaling – working on the basis that prevention is better than cure. At these mineral levels, scaling may happen slowly, but the eventual effect will be the same. For this level of hardness (100-200ppm calcium carbonate), the best methods are Ion Exchange with Polyphosphate or Reverse Osmosis (RO).

In this case, bypass can help to extend filter life by allowing some water to circumvent the ion exchange process which helps to prolong its life. However, it should only be used where water hardness is not a huge issue.

Hard water is a curse on the foodservice industry and can play havoc with machinery including ice makers, espresso machines and cold beverage machines. In addition, it is worth remembering that hard water requires the use of more detergent. So, in the case of warewashers, treated water will help to reduce detergent consumption. The best solution for hard water (200+ppm calcium carbonate) is Ion Exchange or Reverse Osmosis (RO).

Here, bypass is not an option – as all the water needs to be softened in order to prevent scaling. In addition – regardless of water hardness – all systems should incorporate a carbon filter of some kind.

Filter type by water hardness

FILTER TYPE	Soft water (0-100ppm calcium carbonate)	Medium water (100-200ppm calcium carbonate)	Hard water (200+ ppm calcium carbonate)
CARBON	✓	✓	✓
POLYPHOSPHATE	✓	✓	
RO		✓	✓
ION EXCHANGE	✓	✓	✓



2. Incoming water quality and contaminants

It is vital to determine exactly what is in the water, which may require specialist water analysis – though some water filter companies may check water quality. Some information – such as general water quality, or the use of chlorine or chloramine – may be available direct from water companies.

Chlorine is best treated with an activated carbon filter, while chloramines are better handled with a chloramine rated carbon block. For particulates, it is important to select the correct filter micron rating for the local water supply, as detailed here:

Filter micron rating by contaminants

0.2 MICRON	Chlorine taste and odour; sediment; cysts; bacteria
0.5 MICRON	Chlorine taste and odour; sediment; cysts
1 MICRON	Chlorine taste and odour; sediment; rust
5 MICRON	Chlorine taste and odour; sediment; rust; debris; sand

3. Foodservice equipment

Different types of foodservice equipment require different types (or combinations) of filtration technology due to the water that they need to produce.



Ice machines - rely mainly on carbon filters (in order to reduce taste and odours). At the same time, Polyphosphate helps prevent scale formation on the ice trays – which could interfere with ice formation – while RO helps to make perfectly clear ice if multiple equipment needs filtering from one system.



'Hot' water - including coffee machines, boilers and vending machines – carbon filters are used to remove taste and odour. Ion Exchange is also recommended, as scale forms readily at high temperatures – and these machines are expensive. (It also creates 'space' within water to properly extract the full flavour of coffee. RO can be used if multiple equipment needs filtering from one system.)



Post-mix - carbon filters remove taste and odour, while Polyphosphate can prevent scale. Again, RO can be used if multiple equipment needs filtering from one system.



Steamers - carbon filters remove taste and odour. Ion Exchange is also crucial, as even a small amount of hardness minerals can wreak havoc for a steamer – as they evaporate, the water that carries the scale, makes the scale arise more easily. Also, RO can be added if multiple equipment needs filtering from one system.



Water coolers - carbon filters remove taste and odour, while Polyphosphate can be added in order to prevent scaling.

Filter type by equipment

FILTER TYPE	ICE	COFFEE/ HOT WATER	WATER COOLERS	POST-MIX	STEAMER/ COMBI	VENDING
CARBON	✓	✓	✓	✓	✓	✓
POLYPHOSPHATE	✓		✓	✓		
RO	✓	✓		✓	✓	✓
ION EXCHANGE		✓		✓	✓	✓

4. Other factors

In addition to filter type, it is also important to assess factors such as pH, flow rate and likely system capacity.



Capacity - it is important to calculate the likely throughput of treated water. Fitting the correct filtration system – but with a limited capacity – is still effectively the wrong solution and may later require expensive alterations or expansion.

pH

pH - the pH level of water is another vital factor. Some situations, where pH is high, can use an unbuffered ion exchange resin to increase capacity. However, this cannot be used in low pH (higher acidity) as it would potentially cause issues with corrosion within the equipment.



Flow rate - it is necessary to match the water filter's specified flow rate with the desired flow rate of the equipment. If it is set too low, there will not be enough water going into the machine to meet demand.

If a water supply continues to cause problems, it is worth having it tested in order to determine exactly which contaminants are in the water. This will help to pinpoint a precise solution.



Knowing when to change filters

A well-designed water filtration system slots effortlessly into everyday operations, giving foodservice and licenced establishments a 'new normal' of high-quality water.

Unfortunately, this ease of installation means the system can be forgotten from day to day. Inevitably, water quality (and flow rate) will begin to wane as filters become exhausted – but it may be a while before cartridges are changed and water quality returns to its new high standards.

While it is possible to run filters until they are completely spent, this approach is risky: if not calculated correctly, water for drinks will begin to take on off-flavours again; ice making machines may start producing 'cloudy' ice once more; and the invisible process of scaling will have resumed.

To avoid these problems, it is important to change filters and cartridges at the right time. Avoid too early, because it wastes money when there is still capacity remaining in the filter system. This requires having good awareness of how the system is operating – or having 'reminders' to replace on time.

At the most basic level, staff must be aware that the filter cartridges need replacing. No deep knowledge of the system is required – just an awareness that filter cartridges have a working lifetime and must be changed.

As a general rule however, carbon filters should be changed at least every 12 months regardless of remaining capacity as there is a danger that they will be harbouring bacteria after a year of use. Manufacturers can recommend minimum changeover times for each type of filter.

For foodservice users, there are tell-tale signs that a filter has run its course: if scummy residues have returned to the surface of coffee, for instance, then it's time to replace the filter. Similarly, there may be signs that machinery is working less efficiently and thus should be checked for scale.

A more scientific approach is to estimate filter lifetime based on water usage: one way is to calculate predicted water use against the capacity of the filter cartridge, and set a reminder to change the filter before it runs out. The other is to incorporate a monitor, such as a countdown water meter, into the system which flashes or beeps when a new cartridge is required.

At its simplest, it could be no more complicated than writing a 'date of change' on the label and setting a diary reminder.

With Ion exchange filters, we can regularly check output water quality with simple chemical tests to ensure good quality, but we can also fit water meters in order to accurately track the usage of water and estimate exchange life.

[View products](#)







Knowing how to change your 3M filter

Those in the know will have set specific dates on which to change every cartridge in their water filtration system. As well as recognising that filters need to be changed, staff must also know how to change them. In modern systems, this can be very easy. While the initial installation of a water filter is a precise operation, filter replacement can be almost as simple as changing the batteries in a TV remote control.

A typical operation begins by switching off the machine – such as a coffee machine – that is supplied by the filter. Next, the water supply to the filter is shut off, usually via a simple valve. Then, the body of the filter is twisted through a quarter-turn – and it detaches. (A small amount of water may leak out here but this is perfectly normal.) A new filter is then put in place and twisted through 90 degrees – and the operation is complete.

Some filters will need ‘flushing’ on first use so that water is run through the system for a few minutes before the cartridge can be used – but others (including all filters from 3M) can be used right away, without any flushing.

With the new filter in place, the water supply valve is slowly opened, which will re-pressurise the system.

The coffee machine is turned on, and the system is back online.

There is usually a gauge in front of the filter that monitors pressure – with a floating needle on the outside. Lining this needle up with the initial installation pressure will show how far the pressure is dropping over time. Very low pressure indicates that the filter is clogged and needs changing.

Although 3M ion exchange filters do trap physical particles using semi-permeable carbon blocks, the ion exchange resin in these filters has a chemical life and can be saturated by magnesium and calcium in water over time.

We can use simple chemical tests to track the life of ion exchange filters. By testing the incoming water we are able to estimate a litre life and monitor the filters usage using a meter.

Service engineers are a useful resource – but just as changing a wheel on a car is not difficult, neither is changing a water filter.

Replacement Filter Fact No 4:

Most filter cartridges aren't replaced when they should be.



Why it pays to replace your water filters

Filter cartridges have a working lifetime, so it's essential to replace them at the right moment. Leave it too late and water quality will diminish quickly, which could negatively affect your business in many ways.



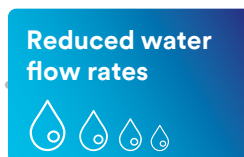
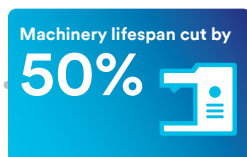
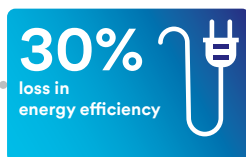
Inferior taste and quality of beverages

- ✗ Coffee becomes flat, can have an odour or surface scum
- ✗ Post-mixes are flat and need more syrup, costing you money
- ✗ Ice becomes cloudy and has a chlorine odour
- ✗ Food prepared in water may have an off taste or hardwater scale flakes



Reduced equipment efficiency

- ✗ Increased breakdowns and repairs
- ✗ Build-up of scale causing:



Cost to your business

- ✗ Lost income
- ✗ Unhappy customers
- ✗ Damage to your reputation
- ✗ Extra kitchen disruption, wasted time and increased stress
- ✗ Increased running costs and reduced profits



Creating the best customer experience

Running a foodservice or licenced business – be it a tea room, coffee shop or bar – is no mean feat. Only the best will survive and thrive.

The growth of ‘café society’ has created more small foodservice establishments on the high street. All of them work hard to satisfy their customers – but know that the tiniest negative experience can mushroom into a major crisis. Modern consumers habitually inspect online reviews before trying somewhere new. Negative reviews – which might be as minor as ‘the coffee tasted bitter’ – can mean the difference between attracting a new customer or losing them forever.

Think of the typical reviews that can be seen online – ‘flat soft drink’; ‘my drink smelt funny’; ‘the cappuccino machine was broken’ – and many are likely to be caused by water supply issues. This could instantly be solved by installing water filtration to produce water of consistent quality with no off-flavours.

Poor quality water acts to the detriment of any foodservice, licenced company, vending machine or water cooler provider – causing problems ranging from odd-tasting coffee to unreliable machinery.

What’s worse, it may be one of those ‘invisible’ problems that put customers off – but they cannot explain why.

It may seem a minor point, but filtered water will also clean cutlery and glasses more effectively – and nobody wants to drink from a streaky glass or use a smeared teaspoon.

Of course, investing in a water filtration system may stretch the resources of some businesses. However, in the longer term the benefits far outweigh the initial cost; it can reduce negative reviews while extending the life of the expensive hardware that brings in business. Here, an upfront investment – much like buying a reliable piece of machinery – can pay dividends.

It also exerts a level of control over an ingredient whose quality is critical to any foodservice or licenced business.





A range of filtration solutions for high standard water quality

As we have seen, there are many ways to filter water – ranging from activated carbon filters, ion exchange resins, polyphosphates and reverse osmosis.

Within the foodservice or licenced environment, techniques can be combined in specific systems to achieve the most appropriate water filtration for the final application – such as making ice, hot drinks or cold beverages.

To remove contaminants, protect equipment and ensure a consistent high standard of water quality for hot and cold drinks and food preparation, 3M has a range of filtration solutions.

The 3M brand instantly gives our customers confidence.

They know that the filters will always do the job they are meant to and that there will be no related issues with the equipment or water quality. ”

Jon Burrill - Senior Buyer, Borg & Overström



3M™ Filtration products utilise Sanitary Quick Change (SQC) technology, allowing cartridges to be removed and replaced with a simple 1/4 turn, without the need to shut off the water supply!



No hassle. No mess.

3M™ HF Range



- ▶ Multiple ranges to suit multiple applications
- ▶ Sediment and Chlorine taste and odour reduction
- ▶ Suitable for soft water areas
- ▶ Scale inhibition, cyst and bacteria reduction options available
- ▶ High capacity - up to 200,000L in one cartridge



3M™ ScaleGard™ Pro Range



- ▶ Wide range, suitable for most applications
- ▶ Sediment and Chlorine taste and odour reduction
- ▶ Suitable for hard water areas
- ▶ Features scale removal technology to protect equipment
- ▶ Available with unbuffered resin for a higher capacity and bypass versions



3M™ ScaleGard™ Blend Range



- ▶ Wide range, suitable for most beverage applications
- ▶ Sediment, Chlorine and Chloramine taste and odour reduction
- ▶ Suitable for hard water areas
- ▶ Compatible with 3M™ ScaleGard™ Blend Series of heads for custom water quality
- ▶ Available with filtration monitor to track cartridge status and life cycle
- ▶ Features scale removal technology to help protect equipment
- ▶ Available with unbuffered resin for a higher capacity



3M™ AP2 Range



- ▶ Designed for mains fed water coolers and drinking water systems
- ▶ Unique miniaturisation carbon block technology for small physical size
- ▶ Sediment and Chlorine taste and odour reduction
- ▶ Suitable for soft and hard water areas
- ▶ Scale inhibition and cyst reduction options available



For even more information and support regarding water filtration, including everything from solution specification to installation and servicing, ask a 3M expert today!

[Ask an Expert](#)



¹ Source: www.watercare.co.uk/ix-ice-ix-dispense-filter

² Source: www.clivecoffee.com/blogs/learn/how-coffee-extraction-works

³ Source: www.homewater101.com/hard-waters-impact-pipes-appliances

⁴ Source: www.homewater101.com/hard-waters-impact-pipes-appliances

⁵ Source: www.clivecoffee.com/blogs/learn/how-coffee-extraction-works



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